

CLAIMS

1. An organic electroluminescent device having a structure in which at least an emitting layer and an electron-transporting layer are stacked between an anode and a cathode, the emitting layer containing an organic metal complex having at least a heavy metal as a central metal,

wherein a difference (ΔAF) in electron affinity between a main organic material forming the emitting layer and a main material forming the electron-transporting layer satisfies the following expression; " $0.2 \text{ eV} < \Delta AF \leq 0.65 \text{ eV}$ ".

2. The organic electroluminescent device according to claim 1 which emits electroluminescence at a longer wavelength than the wavelength corresponding to the triplet energy gap ($Eg^T(\text{Dopant})$) of the organic metal complex having a heavy metal as a central metal.

3. The organic electroluminescent device according to claim 2, wherein the electroluminescence at a longer wavelength than the wavelength corresponding to the triplet energy gap ($Eg^T(\text{Dopant})$) of the organic metal complex having a heavy metal as a central metal is a main component of electroluminescence emitted from the device.

4. The organic electroluminescent device according to claim 1, wherein the main organic material forming the emitting layer

has an electron transporting property.

5. The organic electroluminescent device according to claim 1, wherein the triplet energy gap ($E_g^T(\text{Host})$) of the main organic material forming the emitting layer is 2.52 eV or more.

6. The organic electroluminescent device according to claim 1, wherein the triplet energy gap ($E_g^T(\text{Dopant})$) of the organic metal complex having a heavy metal as a central metal is equal to or greater than the triplet energy gap ($E_g^T(\text{ETL})$) of the main material forming the electron-transporting layer.

7. The organic electroluminescent device according to claim 1, wherein the triplet energy gap ($E_g^T(\text{Host})$) of the main organic material forming the emitting layer is equal to or greater the triplet energy gap ($E_g^T(\text{Dopant})$) of the organic metal complex having a heavy metal as a central metal.